REMARKS/ARGUMENTS

1. Amendments to the specification:

Paragraph [0019] has been amended to correct a typographical error. The term "killed defect" has been changed to "killer defect" to match the usage of the remainder of the specification and the claims. Acceptance of the corrected specification is respectfully requested.

2. Rejection of claims 8-13 under 35 U.S.C. 112, first paragraph:

Claims 8-13 are rejected under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement. Specifically, the limitation "if killer defects are present among the defects generated by the machine, initiating an alarm on the machine; and if killer defects are not present among the defects generated by the machine, processing a work of the machine" is neither described in the specification nor shown in the figures, and therefore, is considered as new matter.

Response:

The above limitations are supported in paragraph [0019] of the specification. Specifically, the middle of paragraph [0019] contains the following disclosure which supports the claim amendments: "...while a killer defect is found, the method of defect control searches the possible root cause in the database according to the detected defect type. For example, the defect type A may be caused by a root cause A in the process B. Then, an alarm 330 is delivered to a corresponding engineer."

Therefore, the applicant submits that all claim limitations are fully supported

by the specification, including paragraphs [0017] to [0019]. No new matter is introduced.

Claim 8 describes that the claimed method is applied for monitoring a machine and **product wafers** are utilized as monitor wafers. The benefit of using product wafers is that problems of a monitored machine in the semiconductor process can be immediately found out. When a product wafer is selected to be inspected, whether a *killer defect generated by the currently machine (the monitored machine) is present or not can be immediately detected* according to the steps of the method of the instant application. Therefore, if the killer defects generated by the monitored machine are present, the responsible person of the monitored machine can stop the machine immediately and check for the cause of the killer defect to report or solve the problem. Accordingly, the situation in which problems can only be found out through a *monitor wafer* during a *daily check* while lots of product wafers has been running in the machine of the prior-art method can be avoided.

In contrast to the claimed invention, prior-art methods use bare wafers as monitor wafers. In the daily check, bare wafers are used to detect for checking the performance of machines. However, when killer defects produced by a certain machine are found, hundreds of wafers have been run in the certain machine and which may all have killer defects. Therefore, prior-art methods take a long time to find out defects and which machine generates killer defects, and to resolve the problems.

According to Steffan et al.'s disclosure, a method of manufacturing and inspecting **semiconductor devices** wherein defects on inspection wafers are tabulated (abstract). Also, the ADC is used to classify kill ratio and calculate die health (col.3, lines 32-42). Therefore, the function and purpose of Steffan et al.'s disclosure **is for analyzing kill ratio of wafers and measuring yield of wafers and not for monitoring a machine.**

In addition, according of Chen et al.'s disclosure, they disclose **a method of determining classification codes for defects** occurring in semiconductor manufacturing processes and for storing the information used to determine the classification codes (abstract). The system shown in Fig.3 stores the classification code in the ADC database as indicated at 310 (col.5, lines 18-25). Therefore, the disclosure of Chen et al. is **a traditional method for storing ADC information database.**

From the above discussion, neither Steffan et al.'s disclosure nor Chen et al.'s disclosure teach **a method for monitoring a machine by detecting defects of product wafers according to the application.** Therefore, the applicant believes that claim 8 is absolutely different from the combination of Steffan et al.'s and Chen et al.'s disclosure. Reconsideration of claim 8 is hereby requested.

Regarding claims 9-13, the adoption of a product wafer in the monitor method can be in conjunction with the ADC, wherein the *ADC has a database containing possible defect types of each*

machine or each fabrication process of each layer. Therefore, after detecting defects of the product wafer, pre-layer defects can be separated from the defects generated by the monitored machine according to the database of the ADC, and the defects generated by the monitored machine can be immediately analyzed to determine if the detected defects contains high kill ratio defects or not. If killer defect occurs, the machine is immediately stopped for checking so that the problems of the machine can be solved. Due to the ADC being a non-destructive test, the product wafer is not influenced and can be continuously run in the next fabrication process.

Claims 9-13 are dependent upon claim 8 and should be allowed if claim 8 is allowed. Consideration of the claims 9-13 is therefore respectfully requested.

In view of the above statements in favor of patentability, the applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Sincerely yours,

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